Homework #14 (Continued)
Math 2300 - Section 880
Due: Thursday, Dec 3

Instructions. Be sure to show your work and explain your reasoning for full credit. Be aware that this homework assignment also has problems from the textbook (as indicated on the course website).

NAME _____

1. Use series to find solutions to the following differential equations/IVPs.

    (a) $y' = xy$

    (b) $y'' + xy' + (x^2 + 1)y = x$, $y(0) = 1$, $y'(0) = 0$ (only find a 6th-degree polynomial approximation to the solution for this one).

2. Find a parametrisation for the line segment from the point $(2, 3, -4)$ to the point $(5, -2, -4)$.

3. Find the tangent line at $t = 1$ of the parametric curve $c(t) = (t^3, t^2)$, and the speed of the curve at that point.